Tran, M.
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E SILVER ION/CN
L1 14 S SILVER ION ?/CN
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[redacted] CAPLUS' ENTERED AT 11:55:36 ON 07 FEB 2002
L2 12483 S L1 OR (AG OR SILVER)(W)ION
L3 17 S L2 AND (ANTIBOD? OR ANTIGEN)

L3 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:592182 CAPLUS
DOCUMENT NUMBER: 135:161519
TITLE: Manuf. superparamagnetic particles and applications
INVENTOR(S): Pilgrimm, Herbert
PATENT ASSIGNEE(S): Germany
SOURCE: U.S., 6 pp., Cont.-in-part of U.S. Ser. No. 776,131.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6274121	B1	20010814	US 1999-300532	19990427
DE 4427821	A1	19960201	DE 1994-4427821	19940727
WO 9603653	A1	19960208	WO 1995-DE1028	19950727
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 772776	A1	19970514	EP 1995-927635	19950727
EP 772776	B1	20000322		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
JP 10503281	T2	19980324	JP 1995-505368	19950727
AT 191086	E	20000415	AT 1995-927635	19950727
US 5928958	A	19990727	US 1997-776131	19970108

PRIORITY APPLN. INFO.:
DE 1994-4427821 A 19940727
WO 1995-DE1028 W 19950727
US 1997-776131 A2 19970108
DE 1993-4309333 A 19930317

AB Superparamagnetic particles consist of superparamagnetic 1-domain particles and aggregates of superparamagnetic 1-domain particles to whose surfaces are bound inorg. and optionally org. substances optionally having further binding sites for coupling to tissue-specific binding substances, diagnostic or pharmacol. active substances. The superparamagnetic particles consist of a mixt. of small superparamagnetic 1-domain particles with a particle size from 3-50 nm and stable, degradable aggregates of small superparamagnetic 1-domain particles with a particle size from 10-1000 nm. They are made of Fe hydroxide, Fe oxide hydrate, Fe oxides, Fe mixed oxides or Fe to the surface of which are bound silicate group contg. substances among the orthosilicic acids and their condensation products and phosphate-group contg. substances among the ortho- or metaphosphoric acids and their condensation products. These substances may have further binding sites.

IT **14701-21-4, Silver ion**, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(condensation product with ortho-, metaphosphoric acid; process for manuf. and applications of superparamagnetic particles)
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:457222 CAPLUS
DOCUMENT NUMBER: 135:73538
TITLE: **Silver ion** microplates for immunoassays
AUTHOR(S): Bonen, Matthew R.; Hoffman, Steven A.; Garcia, Antonio A.
CORPORATE SOURCE: Arizona State Univ., Tempe, AZ, USA
SOURCE: BioTechniques (2001), 30(6), 1340-1351
CODEN: BTNQDO; ISSN: 0736-6205
PUBLISHER: Eaton Publishing Co.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Microplate wells can be coated with **silver ions** using glutaraldehyde as a spacer mol. and thiourea as a complexing ligand. Microwells contg. surface **silver ions** are shown to immobilize biotin-labeled horseradish peroxidase (HRP) in active form, while showing very little affinity for the unlabeled enzyme. These plates can also immobilize biotin-labeled **antibodies** that exhibit bioactivity after immobilization. **Silver ions** are needed for the complexation of the biotinylated enzyme or **antibody** because microwells modified to contain surface amine or thiourea mols. do not immobilize appreciable amts. of the labeled proteins. A max. surface coverage for biotin-labeled HRP of 40 ng/cm2 and an immobilization binding const. of Km = 8.times.109/M are detd. from serial dilns. in a microplate. Detection of as little as 6.7 fmol HRP is achieved using anti-bodies immobilized on the **silver ion**-modified microplates. Active **antibody** surface densities were estd. to be between 130 and 260 nm2/**antibody** mol. Background binding of HRP to the modified **silver ion** microplates was very low, allowing for reasonably accurate detection between 10-14 and 10-11 mol HRP.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:95269 CAPLUS
DOCUMENT NUMBER: 135:149468
TITLE: A comparison of **silver ion** to streptavidin coated microplates
AUTHOR(S): Bonen, M. R.; Garcia, A. A.; Hoffman, S. A.
CORPORATE SOURCE: Department of Chemical and Materials Engineering, Arizona State University, Tempe, AZ, 85287-6006, USA
SOURCE: J. Microbiol. Methods (2001), 44(2), 113-120
CODEN: JMIMDQ; ISSN: 0167-7012
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Direct comparisons are made between covalently linked streptavidin and **silver ion** coated microplates. Both coatings can immobilize biotinylated mols. **Silver ion** coated microplate wells can immobilize 1.8 times higher amts. of biotin labeled horseradish peroxidase. The quantitation range and capacity for the capture of horseradish peroxidase using biotin labeled horseradish peroxidase are also greater for **silver ion** coated microplates. Approx. twice as many anti-horseradish peroxidase **antibodies** can be immobilized per well using **silver ion** coated microplates. Higher capacities are presumed to be due to the smaller footprint of **silver ions** as compared to streptavidin. A direct comparison between the two coatings for a .beta.-galactosidase ELISA showed that while the **silver ion** coated microplates gave higher readings, the streptavidin coated microplates exhibited smaller well-to-well variation. However, higher well to well variation for the silver microplates is attributed to the high d. of anti-.beta.-galactosidase **antibodies** on the microplates and the weak binding of clone GAL-13 to .beta.-galactosidase, rather than the silver coating. These studies suggest **silver ion** coated microplates are a desirable alternative to streptavidin plates for quant. immunoassays.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:260137 CAPLUS
DOCUMENT NUMBER: 132:276300
TITLE: Immobilized silver immunoassay system
INVENTOR(S): Garcia, Antonio A.; Bonen, Matthew R.
PATENT ASSIGNEE(S): Arizona Board of Regents, USA
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000021665	A1	20000420	WO 1999-US23902	19991014
W: CA, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1121198	A1	20010808	EP 1999-956547	19991014
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1998-104263 P 19981014
US 1999-145786 P 19990727
WO 1999-US23902 W 19991014

AB Bioassay plates having **silver ions** immobilized on them are useful in immunoassays for detection of **antibodies** or **antigens**. The bioassay plates are prepd. by amine derivatization of (e.g., polystyrene) microtiter plates, followed by reaction with polymd. glutaraldehyde, reaction with thiourea and complexation with **Ag+ ions**.

The plates can bind biotinylated capture **antibodies** or **antigens** for use in immunoassay systems, esp. std. ELISAs (enzyme-linked immunosorbent assays).

IT **14701-21-4, Silver ion,** biological studies
RL: BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)
(immobilized silver immunoassay system)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:392536 CAPLUS
DOCUMENT NUMBER: 131:212867
TITLE: Selection of Human Metalloantibodies from a Combinatorial Phage Single-Chain **Antibody** Library
AUTHOR(S): Gao, Changshou; Bruemmer, Oliver; Mao, Shenlan; Janda, Kim D.
CORPORATE SOURCE: Department of Chemistry, The Scripps Research Institute and The Skaggs Institute for Chemical Biology, La Jolla, CA, 92037, USA
SOURCE: J. Am. Chem. Soc. (1999), 121(27), 6517-6518
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In this report the authors describe the isolation of metal ion binding **antibodies**. The immobilized phosphorodithioate ligand (1) was utilized as the parent metallo-panning agent while a single-chain **antibody** library was constructed from the blood of 50 healthy volunteers. The resulting phage scFv **antibody** library was then panned against three metal ion pool mixts. and immobilized 1. Clones from the single-chain **antibody** library were found to bind to only metals from the combinatorial pool 3 (La3+, Hg2+, Cd2+, Cu2+). Ten of these clones were picked from pool 3 and examd. for their binding to microtiter wells of an amine surface strip plate coated with 1 and to those coated with 1-pool 3. Two clones (HM3 and HM5) were chosen for further examn. as they showed the greatest affinity to 1-pool 3 vs. 1 alone on the basis of phage ELISA. The scFv fragments of HM3 and HM5 were excised, cloned into the PIWPY vector, and sol. single-chain was overexpressed and purified to homogeneity. Sequencing of HM3 and HM5 revealed greater than 90% homol. between the light chains. In contrast, their heavy chains differed significantly within the complementary detg. regions.

IT **14701-21-4,** biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(selection of human metalloantibodies from a combinatorial phage single-chain **antibody** library)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:370734 CAPLUS

DOCUMENT NUMBER: 131:179342
TITLE: A Fe3+/DNA complex induces an anti-human immunodeficiency virus factor(s) in CD4+ lymphocyte cell lines
AUTHOR(S): Nossik, D.; Kaplina, E.; Nossik, N.; Kalnina, L.; Tsutsumi, R.; Miura, Y.; Sera, K.; Itoh, C.; Sato, S.; Lvov, D.
CORPORATE SOURCE: D.I. Ivanovsky Institute of Virology, Russian Academy of Medical Sciences, Moscow, 123098, Russia
SOURCE: Acta Virol. (Engl. Ed.) (1999), 43(1), 25-30
CODEN: AVIRA2; ISSN: 0001-723X
PUBLISHER: Slovak Academic Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Numerous cytokines and chemokines are involved in inflammatory and immune response. Whereas some of them inhibit virus replication in vitro directly or increase the patients' T4-lymphocyte level, other effects are not so clear. Using human immunodeficiency virus (HIV) and cell cultures we have studied the antiviral effect of complexes of salmon DNA with metals and of a new factor(s) (antiviral factor, AVF) induced in cells by the complexes. The Fe3+/DNA complex possessed the highest antiviral activity. It was found that MT-2, MT-4, CEM and Jurkat cells treated with the complexes secreted AVF which inhibited the replication of nine HIV-1 isolates, was noncytotoxic and stimulated cell proliferation. AVF did not inactivate HIV. The mol. mass anal. of AVF showed that its antiviral activity is assocd. with its fraction of Mr of 3 K. Reverse transcription-polymerase chain reaction (RT-PCR) anal. of mRNA from MT-4 cells treated with the complexes showed an increase in the the expression of genes for interleukin-1 alpha (IL-1 alpha), tumor necrosis factor alpha (TNF-alpha) and TNF-beta while expression of genes for IL-1-beta, IL-2, IL-4, IL-6, IL-8, IL-10, IL-12; 35p, 40p, IL-13, GMCSF, GSF and RANTES was not detected at all. However, the anti-HIV activity of the cell culture supernatant in vitro cannot be explained by mere presence of the inflammatory substances mentioned above, because they do not possess such activity and their Mr is higher than that of AVF. Our findings raise the possibility that AVF(s) may be involved in the mechanism of cell resistance against HIV.

IT **14701-21-4D**, Silver cation, DNA complex, biological studies
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(antiviral effect of complexes of salmon DNA with metals and of antiviral factor induced in cells by the complexes)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:424396 CAPLUS
DOCUMENT NUMBER: 129:99391
TITLE: Functionalized polymers and copolymers of norbornene, 7-oxanorbornene, and norbornadiene for air and wastewater treatment
INVENTOR(S): Buchmeiser, Michael Rudolf; Bonn, Gunther Karl
PATENT ASSIGNEE(S): Buchmeiser, Michael Rudolf, Austria; Bonn, Gunther Karl

SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9827423	A1	19980625	WO 1997-AT278	19971217
W: US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AT 9602209	A	19980115	AT 1996-2209	19961218
AT 404099	B	19980825		
EP 888537	A1	19990107	EP 1997-948632	19971217
R: AT, BE, CH, DE, FR, GB, IT, LI				

PRIORITY APPLN. INFO.: AT 1996-2209 19961218
WO 1997-AT278 19971217

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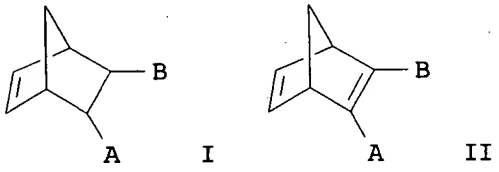

AB Functionalized polymers or copolymers of norbornene, 7-oxanorbornene or norbornadiene were prepd. and used as compns. for sepn. processes (e.g., absorbents), such as chromatog., solid-phase extn., or electrophoresis, esp. for air and wastewater treatment. The polymers are of general formulas I and II [A and B are H, C1-18-alkyl, alkyloxy, aryl, aryloxy, alkenyl, alkylaryl, arylalkyl, arylalkenyl-, hydroxyalkyl, (poly)-hydroxyphenyl, hydroxyalkylaryl, aminoalkyl, (C1-18)-mono- or di(C1-18-alkyl)aminoalkyl, C1-18-cyanoalkyl, cyanoaryl, carboxylate, C1-18-alkylcarboxylate, alkylcarboxyl, N,N-dipyridylamino, halo, N-C1-18-alkyl-N,N-dipyridylamino, N,N-dipyridylcarbamido, or C1-18-alkyl-N,N-dipyridylcarboximido; and X = O or CH2.]. Preferably, A and B are carboxylate, dipyridylamino, or dipyridylamido, as well as N-substituted 7-oxanorborn-2-enedicarboximide and norborn-2-ene-5,6-dicarboximide. The polymers can contain (as part of the A and B functionality) a chelating agent (e.g., hydroxyquinoline), a hapten, or an enzyme for **antigen-antibody** reactions, or the material can coated onto an inorg. (SiO2, Al2O3, TiO2, ZrO2) or an org. (styrene-divinylbenzene copolymer) support.

IT **14701-21-4, Silver ion**(1+), processes
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(removal of, from water; functionalized polymers and copolymers of norbornene, 7-oxanorbornene, and norbornadiene for air and wastewater treatment)

L3 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:397784 CAPLUS
DOCUMENT NUMBER: 127:107672
TITLE: Non-instrumental immunoassay for **antibodies** to HIV-1 and HIV-2
AUTHOR(S): Benitez, Jesus; Ganzo, Oscar; Leal, Vladimir; Gavilondo, Jorge; Novoa, Lidia; Rivero, Juan; Lopez, Grisell; Rodriguez, Jose L.; Nunez, Zoe
CORPORATE SOURCE: Division Immunotechnology Diagnostics, Center Genetic Engineering Biotechnology, Havana, Cuba
SOURCE: Biotecnol. Apl. (1997), 14(2), 114-116
CODEN: BTAPEP; ISSN: 0864-4551
PUBLISHER: Sociedad Iberolatinoamericana de Biotecnologia Aplicada a la Salud
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The aim here was to develop a simple visual immunoassay for **antibodies** to HIV-1 and HIV-2 using the proprietary AuBioDOT technol., and a combination of 2 HIV-1 (p24r and gp41r) recombinant **antigens** and a HIV-2 synthetic peptide (pep36) as coating. The sequential incubations of the coated AuBioDOT slides with serum, a protein A-colloidal gold conjugate, and a **silver ion** enhancer result in dark color metallic deposits in the reaction areas incubated with the pos. samples. The whole procedure takes 40 min and needs no incubation equipment.

L3 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:667394 CAPLUS
DOCUMENT NUMBER: 123:51720
TITLE: Visual immunoassay method for the detection of ligands, based on the use of opaque plastic supports
INVENTOR(S): Santizo Lesoailla, Carlos A.; De La C. Lesoaailla Buitrago, Lissett
PATENT ASSIGNEE(S): Centro de Ingenieria Genetica y Biotecnologia, Cuba
SOURCE: Can. Pat. Appl., 26 pp.
CODEN: CPXXEB
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2105515	AA	19950304	CA 1993-2105515	19930903

AB The present invention is related to the field of immunol., and particularly to an immunoassay for ligand detection in body fluids using plastic supports. The tech. objective of the invention consists of a manual immunoassay that provides high sensitivity, specificity, and reagent economy for the detection of ligands in body fluids by using opaque white plastic supports. The latter contain either **antigens** or **antibodies**, immobilized in shallow microwells. The detection of the resp. ligand-binding partners (**antibodies** or **antigens**, resp.) is done with reagents conjugated with monodisperse colloidal gold, with the signal amplified "in situ" by phys. developers, based on **silver ions**. The samples and all liq.

reagents are placed in contact with the microwells, finally obtaining metallic colored insol. reactions of very high contrast that can be easily interpreted visually. This method can be employed for the detection of any type of **antigen** (including small mols. with discrete epitope structure) or **antibody** (e.g., **antibodies** to human immunodeficiency virus type 1 or to Toxoplasma gondii).

L3 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:498492 CAPLUS
DOCUMENT NUMBER: 122:234849
TITLE: Visual immunoassay method for the detection of ligands, based on the use of opaque plastic supports.
INVENTOR(S): Santiago Laecaille, Carlos A.; Lescaille Buitrago, Lissett de La C.
PATENT ASSIGNEE(S): Centro de Ingenieria Genetic y Biotecnologia, Cuba
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 643307	A1	19950315	EP 1993-500124	19930914
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 07120470	A2	19950512	JP 1993-245382	19930930

PRIORITY APPLN. INFO.: EP 1993-500124 19930914
AB The present invention is related to the field of immunol., and deals esp. with an immunoassay for ligand detection in body fluids using plastic supports. The tech. objective of this invention consists of a manual immunoassay method which provides high sensitivity, specificity, and reagent economy for the detection of ligands in body fluids using opaque white plastic supports. The latter contain either **antigens** or **antibodies** immobilized in shallow microwells. The detection of the resp. ligand-binding partner (**antibodies** or **antigens**) is evidenced by using reagents conjugated with monodisperse colloidal gold, with the signal amplified "in situ" by phys. developers based on **silver ions**. The samples and all liq. reagents are placed in contact with the microwells, finally obtaining metallic colored reactions of very high contrast than can be easily interpreted visually. This method can be employed for the detection of any type of **antigen** (including small mols. with discrete epitope structure) or **antibody**. Examples are given for the detection of **antibodies** against HIV-1 and against Toxoplasma gondii.

L3 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:678676 CAPLUS
DOCUMENT NUMBER: 119:278676
TITLE: Synthesis of biofunctional fine materials - biointeraction and clinical application of synthetic material

AUTHOR(S): Aono, M.; Yamamoto, K.; Hotta, M.; Hirofuji, T.; Yamaki, M.
CORPORATE SOURCE: Sch. Dent., Asahi Univ., Gifu, 501-02, Japan
SOURCE: New Funct. Mater. (1993), Volume B, 369-73. Editor(s): Tsuruta, Teiji. Elsevier: Amsterdam, Neth.
CODEN: 59NKAJ
DOCUMENT TYPE: Conference
LANGUAGE: English

AB The antibacterial action of SiO2 filler implanting **Ag ion** on oral streptococci found in dental plaque, the application of glass ceramic typodont tooth, synthesis of glass ceramics by the sol-gel process, and the effects of glass ceramics on human polymorphonuclear leukocytes (PMNs) were studied. As a result, the four representative oral streptococci (S. mutans, S. sanguis, S. mitis, and S. salivarius) showed growth inhibition by SiO2 filler implanting **Ag ion**. Bioram-M may be a useful typodont tooth, esp. suitable for enamel substitute in the cutting exercise. Newly prepd. TiO2-SiO2 glass powders are refractive-index-adjustable fillers, suitable for various types of visible-light-cured dental resins. Glass ceramics affects the expression of cell surface **antigens** and H2O2 prodn. of PMNs and may activate PMNs.

L3 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:465931 CAPLUS
DOCUMENT NUMBER: 117:65931
TITLE: Direct measurement of low density lipoprotein in whole blood by silver-enhanced gold-labelled immunoassay
AUTHOR(S): Patel, Nishith; Rocks, Bernard F.; Iversen, S. Andrew
CORPORATE SOURCE: Clifford Riley Dep. Chem. Pathol., R. Sussex County Hosp., Brighton, BN2 5BE, UK
SOURCE: Ann. Clin. Biochem. (1992), 29(3), 283-6
CODEN: ACBOBU; ISSN: 0004-5632
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A competitive silver-enhanced gold-labeled immunoassay (SEGLISA) has been developed for the direct measurement of low-d. lipoprotein (LDL) in whole blood. Immobilized LDL and sample LDL compete for added **antibody**. Quantitation of the bound **antibody/antigen** complex is achieved by the addn. of gold-labeled antiimmunoglobulin G followed by enhancement of absorbance by addn. of **silver ions**. Whole-blood samples from fasting patients were assayed directly for LDL by the procedure and the corresponding plasma samples were assayed for total cholesterol, high-d. lipoprotein and triglycerides followed by the indirect calcn. of LDL cholesterol. The correlation between the two methods was good (r = 0.82) and the SEGLISA exhibited good precision.

L3 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:510014 CAPLUS
DOCUMENT NUMBER: 115:110014
TITLE: Silver-enhanced gold-labelled immunoassay for analyte determination in body fluids
INVENTOR(S): Rocks, Bernard Francis; Bailey, Michael Philip;

	Bertram, Vanessa M. R.
PATENT ASSIGNEE(S):	United Kingdom Secretary of State for Health, London, UK
SOURCE:	PCT Int. Appl., 63 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9101003	A1	19910124	WO 1990-GB1046	19900706
W: AT, AU, BB, BG, BR, CA, CH, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MC, MG, MW, NL, NO, RO, SD, SE, SU, US				
RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, DK, ES, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG				
AU 9059480	A1	19910206	AU 1990-59480	19900706
EP 481020	A1	19920422	EP 1990-917909	19900706
EP 481020	B1	19960313		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
AT 135466	E	19960315	AT 1990-917909	19900706
PRIORITY APPLN. INFO.:			GB 1989-15512	19890706
			WO 1990-GB1046	19900706

AB A Ag-enhanced Au-labeled immunogold assay (SEGLISA) capable of detg. levels of target analytes such as **antigens**, **antibodies**, and drugs in physiol. fluids, including whole blood samples, is disclosed. The assay is particularly suited for the detn. of the presence and/or amt. of HIV (human immunodeficiency virus) and Rubella **antibodies** and provides a permanent result of less equivocal nature than prior ELISA assays. By use of a Ag-contg. enhancer soln., the Au is completely visualized to provide a dark brown to dense black deposit of Ag on the Au which may be produced in an amt. proportional to the amt. of Au-labeled reagent bound to the solid-phase specific binding reagent. For HIV **antibody** detn. in whole blood, a test sample was dild., added to microtiter wells precoated with inactivated HIV **antigens**, and incubated at 37.degree. for 60 min, followed by incubation with IgG-Au conjugate at 37.degree. for 60 min and treatment with a Ag-contg. enhancer. After washing with distd. water, the absorbance of the wells were read at 450 nm. Kits for the immunoassay also are claimed.

L3 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER:	1990:512000 CAPLUS
DOCUMENT NUMBER:	113:112000
TITLE:	Electropolymer-coated microelectrodes
INVENTOR(S):	Wallace, Gordon George
PATENT ASSIGNEE(S):	Wollongong Uniadvice Ltd., Australia
SOURCE:	PCT Int. Appl., 40 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 9002829 A1 19900322 WO 1989-AU381 19890907
W: AU, JP, US
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE
AU 8942264 A1 19900402 AU 1989-42264 19890907
PRIORITY APPLN. INFO.: AU 1988-294 19880907
WO 1989-AU381 19890907

AB The manuf. of microelectrodes, layer-coated with polymers by electropolymn., is disclosed. The polymeric layers are preferably derived from pyrrole, thiophene, etc. monomers by galvanostatic, potentiostatic, or potentiodynamic oxidn. of the monomer. An extension of the invention allows for the prodn., at low potential, of polymers with low counter ion content (less conductive ions) or with low affinity ions, both of which may be readily exchanged by ion-exchange techniques for useful agents such as proteins, **antibodies, antigens**, and drugs in .gtoreq.1 layer. These incorporated materials are control-released by applying a cathodic potential to the microelectrode or used in assays. Polypyrrole microelectrodes incorporating Cl- as the counter ion were grown galvanostatically and used to detect Ag+ in soln.

L3 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1961:137760 CAPLUS
DOCUMENT NUMBER: 55:137760
ORIGINAL REFERENCE NO.: 55:26052f-g
TITLE: Preparation of metal-protein complexes for electron microscopy
AUTHOR(S): Roycraft, Elizabeth; Brown, Ray K.
CORPORATE SOURCE: New York State Dept. of Health, Albany
SOURCE: N.Y. State Dept. Health, Ann. Rept. Div. Labs. and Research (1960) 73-4
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Cr label was applied in stages alternating with H2S to human serum albumin after treatment with 20 moles of N-acetyl-DL-homocysteine thiolactone in the presence of **Ag ion** and subsequent removal of the Ag. This suggests that a lattice occurred in which 1 Cr atom was linked through 1 S atom to the protein and through 2 S atoms to other Cr atoms. The albumin so prepd. was water-sol., contained 4.6% Cr in agreement with calcns. and still reacted with its **antibody**. Electron micrographs showed particles of appropriate size and no. not present in the controls.

L3 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1917:12096 CAPLUS
DOCUMENT NUMBER: 11:12096
ORIGINAL REFERENCE NO.: 11:2505a-d
TITLE: Therapeutic iontophoresis
AUTHOR(S): Koller, H.
SOURCE: J. Am. Med. Assoc. (1917), 68, 1878
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB K. describes extensive expts. made with the ions of heavy metals, by passing them through dead animal membranes and through rabbit ears. The use of Cu or Zn on a large surface, as for example the vagina, should be avoided, but Ag is well adapted for such use, the AgCl formed by contact of the **Ag ion** with Cl of body fluids being insol. and hence non-toxic. It appears that heavy

metals in ion form can penetrate into and pass along in the body, but they are kept from doing harm by an **antibody** an actual anti- ion colloid. At the moment of the discharge the ion becomes active and by forming salts induces pptn. of the colloid, that is, exerts a caustic action. A general pptn. of colloid in the course of Hg or Ag treatment is attended with symptoms of poisoning. If the conditions regulating the migration and discharge of the heavy metals in the body could be controlled a new field would be opened in therapeutics.

L3 ANSWER 17 OF 17 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1917:12095 CAPLUS
DOCUMENT NUMBER: 11:12095
ORIGINAL REFERENCE NO.: 11:2505a-d
TITLE: Therapeutic iontophoresis
AUTHOR(S): Koller, H.
SOURCE: Correspondenz-Blatt fur Schweizer Aerzte (1917), 47, two installments 485,513
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB K. describes extensive expts. made with the ions of heavy metals, by passing them through dead animal membranes and through rabbit ears. The use of Cu or Zn on a large surface, as for example the vagina, should be avoided, but Ag is well adapted for such use, the AgCl formed by contact of the **Ag ion** with Cl of body fluids being insol. and hence non-toxic. It appears that heavy metals in ion form can penetrate into and pass along in the body, but they are kept from doing harm by an **antibody** an actual anti- ion colloid. At the moment of the discharge the ion becomes active and by forming salts induces pptn. of the colloid, that is, exerts a caustic action. A general pptn. of colloid in the course of Hg or Ag treatment is attended with symptoms of poisoning. If the conditions regulating the migration and discharge of the heavy metals in the body could be controlled a new field would be opened in therapeutics.

[redacted]EDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, [redacted]EPLUS, JAPIO' ENTERED AT 11:58:36 ON 07 FEB 2002)
L4 32 S L3
L5 [redacted] DUPLICATES REMOVED)

L5 ANSWER 1 OF 17 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2002013731 MEDLINE
DOCUMENT NUMBER: 21307923 PubMed ID: 11414228
TITLE: **Silver ion** microplates for immunoassays.
AUTHOR: Bonen M R; Hoffman S A; Garcia A A
CORPORATE SOURCE: Arizona State University, Tempe, AZ, USA.
SOURCE: BIOTECHNIQUES, (2001 Jun) 30 (6) 1340-4, 1346-51. Journal code: 8306785. ISSN: 0736-6205.
PUB. COUNTRY: United States
(EVALUATION STUDIES)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200201
ENTRY DATE: Entered STN: 20020121
Last Updated on STN: 20020125

Entered Medline: 20020114

AB Microplate wells can be coated with **silver ions** using glutaraldehyde as a spacer molecule and thiourea as a complexing ligand. Microwells containing surface **silver ions** are shown to immobilize biotin-labeled horseradish peroxidase (HRP) in active form, while showing very little affinity for the unlabeled enzyme. These plates can also immobilize biotin-labeled **antibodies** that exhibit bioactivity after immobilization. **Silver ions** are needed for the complexation of the biotinylated enzyme or **antibody** because microwells modified to contain surface amine or thiourea molecules do not immobilize appreciable amounts of the labeled proteins. A maximum surface coverage for biotin-labeled HRP of 40 ng/cm2 and an immobilization binding constant of Km = 8 x 10(9)/M are determined from serial dilutions in a microplate. Detection of as little as 6.7 fmol HRP is achieved using **antibodies** immobilized on the **silver ion**-modified microplates. Active **antibody** surface densities were estimated to be between 130 and 260 nm2/**antibody** molecule. Background binding of HRP to the modified **silver ion** microplates was very low, allowing for reasonably accurate detection between 10(-14) and 10(-11) mol HRP.

L5 ANSWER 2 OF 17 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 2001332460 EMBASE
TITLE: Sodium ion cycle in bacterial pathogens: Evidence from cross-genome comparisons.
AUTHOR: Hase C.C.; Fedorova N.D.; Galperin M.Y.; Dibrov P.A.
CORPORATE SOURCE: P.A. Dibrov, Department of Microbiology, Faculty of Science, University of Manitoba, Winnipeg, Man. R3T 2N2, Canada. dibrovp@ms.umanitoba.ca
SOURCE: Microbiology and Molecular Biology Reviews, (2001) 65/3 (353-370).
Refs: 228
ISSN: 1092-2172 CODEN: MMBRF7
COUNTRY: United States
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 004 Microbiology
037 Drug Literature Index
038 Adverse Reactions Titles
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Analysis of the bacterial genome sequences shows that many human and animal pathogens encode primary membrane Na(+) pumps, Na(+)-transporting dicarboxylate decarboxylases or Na(+)-translocating NADH: ubiquinone oxidoreductase, and a number of Na(+)-dependent permeases. This indicates that these bacteria can utilize Na(+) as a coupling ion instead of or in addition to the H(+) cycle. This capability to use a Na(+) cycle might be an important virulence factor for such pathogens as Vibrio cholerae, Neisseria meningitidis, Salmonella enterica serovar Typhi, and Yersinia pestis. In Treponema pallidum, Chlamydia trachomatis, and Chlamydia pneumoniae, the Na(+) gradient may well be the only energy source for secondary transport. A survey of preliminary genome sequences of Porphyromonas gingivalis, Actinobacillus actinomycetemcomitans, and Treponema denticola indicates that these oral pathogens also rely on the Na(+) cycle for at least part of their energy metabolism. The possible roles of the Na(+) cycling in

the energy metabolism and pathogenicity of these organisms are reviewed. The recent discovery of an effective natural antibiotic, korormicin, targeted against the Na(+)-translocating NADH: ubiquinone oxidoreductase, suggests a potential use of Na(+) pumps as drug targets and/or vaccine candidates. The antimicrobial potential of other inhibitors of the Na(+) cycle, such as monensin, Li(+) and **Ag**(+) **ions**, and amiloride derivatives, is discussed.

L5 ANSWER 3 OF 17 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2001353756 MEDLINE
DOCUMENT NUMBER: 21112318 PubMed ID: 11165340
TITLE: A comparison of **silver ion** to streptavidin coated microplates.
AUTHOR: Bonen M R; Garcia A A; Hoffman S A
CORPORATE SOURCE: Department of Chemical and Materials Engineering, Arizona State University, Tempe, AZ 85287-6006, USA.
SOURCE: JOURNAL OF MICROBIOLOGICAL METHODS, (2001 Mar 1) 44 (2) 113-20.
Journal code: DA7; 8306883. ISSN: 0167-7012.
PUB. COUNTRY: Netherlands
(EVALUATION STUDIES)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200106
ENTRY DATE: Entered STN: 20010625
Last Updated on STN: 20010625
Entered Medline: 20010621

AB Direct comparisons are made between covalently linked streptavidin and **silver ion** coated microplates. Both coatings can immobilize biotinylated molecules. **Silver ion** coated microplate wells can immobilize 1.8 times higher amounts of biotin labeled horseradish peroxidase. The quantitation range and capacity for the capture of horseradish peroxidase using biotin labeled horseradish peroxidase are also greater for **silver ion** coated microplates. Approximately twice as many anti-horseradish peroxidase **antibodies** can be immobilized per well using **silver ion** coated microplates. Higher capacities are presumed to be due to the smaller footprint of **silver ions** as compared to streptavidin. A direct comparison between the two coatings for a beta-galactosidase ELISA showed that while the **silver ion** coated microplates gave higher readings, the streptavidin coated microplates exhibited smaller well-to-well variation. However, higher well to well variation for the silver microplates is attributed to the high density of anti-beta-galactosidase **antibodies** on the microplates and the weak binding of clone GAL-13 to beta-galactosidase, rather than the silver coating. These studies suggest **silver ion** coated microplates are a desirable alternative to streptavidin plates for quantitative immunoassays.

L5 ANSWER 4 OF 17 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-317882 [27] WPIDS
DOC. NO. NON-CPI: N2000-238563
DOC. NO. CPI: C2000-096247
TITLE: Bioassay plate for detecting **antigens** and

antibodies in immunoassays has **silver ions** immobilized on the plate surface.

DERWENT CLASS: A89 B04 D16 J04 P42 S03
INVENTOR(S): BONEN, M R; GARCIA, A A
PATENT ASSIGNEE(S): (UYAR-N) UNIV ARIZONA STATE
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000021665	A1	20000420	(200027)*	EN	37
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: CA US					
EP 1121198	A1	20010808	(200146)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000021665	A1	WO 1999-US23902	19991014
EP 1121198	A1	EP 1999-956547	19991014
		WO 1999-US23902	19991014

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1121198	A1	Based on	WO 200021665

PRIORITY APPLN. INFO: US 1999-145786P 19990727; US 1998-104263P 19981014

AN 2000-317882 [27] WPIDS

AB WO 200021665 A UPAB: 20000606

NOVELTY - A bioassay plate with **silver ions** immobilized on its surface, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a method for detecting an **antigen** comprising:

(a) incubating a multi-well bioassay plate with **silver ions** immobilized on its surface with a biotinylated **antibody** that has specificity for the **antigen** to provide a plate with the **antibody** immobilized on its surface;

(b) incubating the plate with a solution containing the **antigen**;

(c) washing the plate with an aqueous solution;

(d) incubating the plate with a labeled **antibody** having specificity for the **antigen**;

(e) washing the plate with an aqueous solution; and

(f) detecting the label, where any detection of the label is indicative of the presence of the **antigen**;

(2) a method for detecting a first **antibody** comprising:

(a) incubating a multi-well bioassay plate with **silver ions** immobilized on its surface with a biotinylated **antigen** that is reactive with the first **antibody**

to provide a plate with the **antigen** immobilized on its surface;

(b) incubating the plate with an aqueous solution containing the first **antibody**;

(c) washing the plate with an aqueous solution;

(d) incubating the plate with an aqueous solution containing a labeled second **antibody** that binds to the first **antibody**;

(e) washing the plate with an aqueous solution; and

(f) detecting the label, where any detection of the label is indicative of the presence of the first **antibody**;

(3) a kit (I) for the detection of a first **antibody** comprising a first container containing a bioassay plate with **silver ions** immobilized on its surface;

(4) a kit (II) for the detection of an **antigen** comprising a first container containing a bioassay plate with **silver ions** immobilized on its surface; and

(5) an apparatus for activating microplates comprising:

(a) a housing;

(b) a reagent addition/withdrawal chamber disposed in the housing which includes reagent and wash storage containers in communication with a manifold that is in communication with dispense lines disposed to deliver wash and reagent to a microplate and further includes aspirate lines disposed to aspirate spent reagent from the microplate that are in communication with the manifold in communication with a waste container;

(c) an incubation chamber disposed in the housing which includes a device for vertically delivering a non-reactive sealing plate to the microplate and a device for heating and agitating the microplate; and

(d) a device for horizontally conveying a microplate into and out of the addition/withdrawal chamber and between the addition/withdrawal chamber and the incubation chamber.

USE - The plate is used in immunoassay systems for detecting **antibodies** or **antigens** e.g. enzyme linked immunosorbent assays. The apparatus provides an automated process for using the plates.

ADVANTAGE - The silver coated plates are more sensitive than the streptavidin-coated plates used previously.

Dwg.0/11

L5 ANSWER 5 OF 17 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 2000:452779 SCISEARCH
THE GENUINE ARTICLE: 323BR
TITLE: NAD(P)(+)-glycohydrolase from human spleen: a multicatalytic enzyme
AUTHOR: Orsomando G; Polzonetti V; Natalini P (Reprint)
CORPORATE SOURCE: UNIV CAMERINO, DIPARTIMENTO SCI MORFOL & BIOCHIM COMPARATE, VIA CAMERINI 2, I-62032 CAMERINO, MC, ITALY (Reprint); UNIV CAMERINO, DIPARTIMENTO SCI MORFOL & BIOCHIM COMPARATE, I-62032 CAMERINO, MC, ITALY
COUNTRY OF AUTHOR: ITALY
SOURCE: COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY, (MAY 2000) Vol. 126, No. 1, pp. 89-98.
Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5

1GB, ENGLAND.
ISSN: 0305-0491.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 22

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB NAD(P)(+)-glycohydrolase (NADase, EC 3.2.2.6) was partially purified from microsomal membranes of human spleen after solubilization with Triton X-100. In addition to NAD(+) and NADP(+), the enzyme catalyzed the hydrolysis of several NAD(+) analogues and the pyridine base exchange reaction with conversion of NAD(+) into 3-acetylpyridine adenine dinucleotide. The enzyme also catalyzed the synthesis of cyclic ADP-ribose (cADPR) from NAD(+) and the hydrolysis of cADPR to adenosine diphosphoribose (ADPR). Therefore, this enzyme is a new member of multicatalytic NADases recently identified from mammals, involved in the regulation of intracellular cADPR concentration. Human spleen NADase showed a subunit molecular mass of 45 kDa, a pI of 4.9 and a K-m value for NAD(+) of 26 mu M. High activation of ADPR cyclase activity was observed in the presence of **Ag+ ions**, corresponding to NADase inhibition.

L5 ANSWER 6 OF 17 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-170769 [15] WPIDS
DOC. NO. NON-CPI: N2000-126977
DOC. NO. CPI: C2000-052998
TITLE: Modulating migration of dendritic cells between peripheral tissue and lymphatic vessels.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BEAULIEU, S; MULLER, W A; RANDOLPH, G J; STEINMAN, R M
PATENT ASSIGNEE(S): (CORR) CORNELL RES FOUND INC; (UYRQ) UNIV ROCKEFELLER
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9962537	A1	19991209	(200015)*	EN	69
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP					
AU 9944237	A	19991220	(200021)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9962537	A1	WO 1999-US12681	19990604
AU 9944237	A	AU 1999-44237	19990604

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9944237	A	Based on	WO 9962537

PRIORITY APPLN. INFO: US 1999-90781 19990603; US 1998-90781

Searcher : Shears 308-4994

19980604
AN 2000-170769 [15] WPIDS
AB WO 9962537 A UPAB: 20000323
NOVELTY - Migration of dendritic cells (DC) from peripheral tissue to lymphatic vessels is modulated by treating DC with an agent (I) that alters activity of the DC membrane proteins p-glycoprotein (pgP) and/or tissue factor (TF).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) modifying development of immunity or an immune response in a mammal by contacting DC with (I);

(b) identification of (I) by determining the extent to which a test compound, able to interact with pgP and/or TF, modulates DC migration in vivo or in vitro;

(c) identifying agents (Ia) that modulate pgP activity in DC;

(d) increasing migration of monocytes (or derived cells) by treating then with an agent that increases pgP activity; and

(e) treating chronic inflammation by method (d).

ACTIVITY - Immunomodulatory; anti-inflammatory; anti-allergic; anti-arthritic; antiviral; anticancer.

MECHANISM OF ACTION - (I) control migration of DC (a process essential for inducing an immune response, and implicated in development of adverse immune responses), also migration of monocytes from foci of chronic inflammation. Mice were injected intravenously with 50 mg/ml MK571 (known antagonists of pgP), then 4 hours later a fluorescein isothiocyanate (FITC) solution applied to a shaved region on the back. After 24 hours, draining nodes were excised and analyzed for content of FITC-labeled DC. Treatment with MK571 reduced accumulation of DC in these lymph nodes by 64%.

USE - The method is used

(i) to suppress immunity/immune responses, particularly against an allergen, for treatment and prevention of organ transplant rejection, guest versus host disease, autoimmune diseases (specifically rheumatoid arthritis and psoriasis), atopic diseases (specifically contact dermatitis, food allergy, allergic rhinitis or conjunctivitis, asthma or eczema) or infection with human immune deficiency virus;

(ii) in co-administration with an **antigen** (of bacterial, viral, parasitic or tumor origin) to increase development of **antigen**-specific immunity; and

(iii) to inhibit migration of monocytes, or derived cells, for treatment of chronic inflammation, specifically rheumatoid arthritis, artherosclerosis or granulomatous diseases.

Dwg.0/11

L5 ANSWER 7 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1996:65633 BIOSIS
DOCUMENT NUMBER: PREV199698637768
TITLE: Detection of A and M type immunoglobulins specific for Toxoplasma gondii by using colloidal gold labelled polyclonal **antibodies**.
AUTHOR(S): Rojas, Yolanda; Santizo, Carlos; Legra, Martha Elena; Collazo, Jose
CORPORATE SOURCE: Div. de Inmunotecnol. Diagn., Cent. de Ingenieria Genet. Biotecnol., Apartado 6162, C.P. 10600, La Habana 6 Cuba
SOURCE: Biotecnologia Aplicada, (1995) Vol. 12, No. 2, pp. 108-111.

DOCUMENT TYPE: Article
LANGUAGE: Spanish
SUMMARY LANGUAGE: Spanish; English
AB In this article we describe the use of colloidal gold labeled polyclonal **antibodies** for the identification of A and M type immunoglobulins specific for Toxoplasma gondii in human serum samples. The competitive inhibition produced by immunoglobulins G was removed by the adsorption of sea with Protein A-Sepharose. The use of colloidal gold labeled **antibodies** and the subsequent amplification of the reaction with **silver ions**, made possible the observation of the **antigen -antibody** reaction using the conventional optic microscope. The sensitivity and specificity of the system are 100% and 96.5% respectively.

L5 ANSWER 8 OF 17 MEDLINE
ACCESSION NUMBER: 94215216 MEDLINE
DOCUMENT NUMBER: 94215216 PubMed ID: 8162620
TITLE: Effects of **silver ions** (Ag+) on contractile ring function and microtubule dynamics during first cleavage in Ilyanassa obsoleta.
AUTHOR: Conrad A H; Stephens A P; Paulsen A Q; Schwarting S S; Conrad G W
CORPORATE SOURCE: Mount Desert Island Biological Laboratory, Salsbury Cove, Maine.
SOURCE: CELL MOTILITY AND THE CYTOSKELETON, (1994) 27 (2) 117-32.
Journal code: CRD; 8605339. ISSN: 0886-1544.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199405
ENTRY DATE: Entered STN: 19940606
Last Updated on STN: 19970203
Entered Medline: 19940526
AB The terminal phase of cell division involves tight constriction of the cleavage furrow contractile ring, stabilization/elongation of the intercellular bridge, and final separation of the daughter cells. At first cleavage, the fertilized eggs of the mollusk, Ilyanassa obsoleta, form two contractile rings at right angles to each other in the same cytoplasm that constrict to tight necks and partition the egg into a trefoil shape. The cleavage furrow contractile ring (CF) normally constricts around many midbody microtubules (MTs) and results in cleavage; the polar lobe constriction contractile ring (PLC) normally constricts around very few MTs and subsequently relaxes without cleavage. In the presence of **Ag+ ions**, the PLC 1) begins MT-dependent rapid constriction sooner than controls, 2) encircles more MTs than control egg PLCs, 3) elongates much more than control PLCs, and 4) remains tightly constricted and effectively cleaves the polar lobe from the egg. If Ag(+)-incubated eggs are returned to normal seawater at trefoil, tubulin fluorescence disappears from the PLC neck and the neck relaxes. If nocodazole, a drug that depolymerizes MTs, is added to Ag(+)-incubated eggs during early PLC constriction, the PLC is not stabilized and eventually relaxes. However, if nocodazole is added to Ag(+)-incubated eggs at trefoil, tubulin fluorescence disappears from the PLC neck but the neck remains

constricted. These results suggest that Ag+ accelerates and gradually stabilizes the PLC constriction by a mechanism that is initially MT-dependent, but that progressively becomes MT-independent.

L5 ANSWER 9 OF 17 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 94311918 MEDLINE
DOCUMENT NUMBER: 94311918 PubMed ID: 8037745
TITLE: Induction of the putative copper ATPases, CopA and CopB, of Enterococcus hirae by Ag+ and Cu2+, and Ag+ extrusion by CopB.
AUTHOR: Odermatt A; Krapf R; Solioz M
CORPORATE SOURCE: Department of Clinical Pharmacology, University of Berne, Switzerland.
SOURCE: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1994 Jul 15) 202 (1) 44-8.
Journal code: 9Y8; 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-Z46807
ENTRY MONTH: 199408
ENTRY DATE: Entered STN: 19940825
Last Updated on STN: 19970203
Entered Medline: 19940815

AB The two P-type ATPases CopA and CopB are effecting regulation of cellular copper activity in Enterococcus hirae. With **antibodies** against these ATPases, we showed on Western blots the simultaneous induction of CopA and CopB by copper or **silver ions**. Copper contents of wild type and mutant cells lacking either CopA, CopB or both enzymes were measured by atomic absorption. Strains disrupted in copB showed clearly enhanced copper contents. Mutants lacking CopB also lost the ability of energy dependent efflux of **silver ions**. Our results demonstrate that CopA and CopB are under the same genetic control and support the proposal that CopB is a copper and silver exporting ATPase.

L5 ANSWER 10 OF 17 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 92303943 MEDLINE
DOCUMENT NUMBER: 92303943 PubMed ID: 1610102
TITLE: Direct measurement of low density lipoprotein in whole blood by silver-enhanced gold-labelled immunoassay.
AUTHOR: Patel N; Rocks B F; Iversen S A
CORPORATE SOURCE: Clifford Riley Department of Chemical Pathology, Royal Sussex County Hospital, Brighton, UK.
SOURCE: ANNALS OF CLINICAL BIOCHEMISTRY, (1992 May) 29 (Pt 3) 283-6.
Journal code: 52Y; 0324055. ISSN: 0004-5632.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199207
ENTRY DATE: Entered STN: 19920731
Last Updated on STN: 19970203

Entered Medline: 19920722

AB A competitive silver-enhanced gold-labelled immunoassay has been developed for the direct measurement of low density lipoprotein (LDL) in whole blood. Immobilized LDL and sample LDL compete for added **antibody**. Quantitation of the bound **antibody /antigen** complex is achieved by the addition of gold-labelled anti-immunoglobulin G followed by enhancement of absorbance by addition of **silver ions**. Whole-blood samples from fasting patients were assayed directly for LDL by the procedure and the corresponding plasma samples were assayed for total cholesterol, high density lipoprotein and triglycerides followed by the indirect calculation of LDL cholesterol. The correlation between the two methods was good (r = 0.82) and the SEGLISA exhibited good precision.

L5 ANSWER 11 OF 17 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1991-051400 [07] WPIDS
DOC. NO. NON-CPI: N1991-039766
DOC. NO. CPI: C1991-021860
TITLE: Silver-enhanced gold-labelled immunoassay - esp. useful for determn. of HIV and Rfubella **antibodies**.
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): BAILEY, M P; BERTRAM, V M R; ROCKS, B F; BERTRAM, V M
PATENT ASSIGNEE(S): (UKHE-N) UK SEC FOR HEALTH
COUNTRY COUNT: 33
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9101003	A	19910124	(199107)*		
RW: AT BE CH DE DK ES FR GB IT LU NL OA SE					
W: AT AU BB BG BR CA CH DE DK ES FI HU JP KP KR LK LU MC MG MW NL NO RO SD SE SU US					
AU 9059480	A	19910206	(199119)		
EP 481020	A	19920422	(199217)	EN	59
R: AT BE CH DE DK ES FR GB IT LI LU NL SE					
EP 481020	B1	19960313	(199615)	EN	32
R: AT BE CH DE DK ES FR GB IT LI LU NL SE					
DE 69025940	E	19960418	(199621)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 481020	A	EP 1990-917909	19900706
EP 481020	B1	EP 1990-917909	19900706
		WO 1990-GB1046	19900706
DE 69025940	E	DE 1990-625940	19900706
		EP 1990-917909	19900706
		WO 1990-GB1046	19900706

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 481020	A	Based on	WO 9101003

EP 481020	B1	Based on	WO 9101003
DE 69025940	E	Based on	EP 481020
		Based on	WO 9101003

PRIORITY APPLN. INFO: GB 1989-15512 19890706
AN 1991-051400 [07] WPIDS
AB WO 9101003 A UPAB: 19930928
Immunogold assays are visually enhanced by exposing the completed immunogold assay tests to a soln. of **silver ions**, whereby silver is nucleated onto at least a portion of the gold, and then relating the presence and/or amt. of nucleated silver to the presence and/or amt. of the target analyte (I). Also claimed is a method for determining the presence or quantity of (I) in a fluid by: (a) immobilising a specific binding agent (II), with which (I) will combine specifically, on a solid substrate; (c) exposing to a sec. binding agent, capable of binding to the specifically combined (I), and to which colloidal gold particles have been bound; (d) exposing to a soln. contg. **silver ions** so that nucleation occurs; and (e) relating the presence and/or amt. of nucleated silver to (I). The gold particles may also be bound to (II), omitting the sec. binding agent. Assay Kits are also provided.

USE/ADVANTAGE - The assay is esp. useful for determn. of HIV and Rubella **antibodies**. The silver enhanced gold-labelled immunogold assay (SEGLISA) has several advantages, providing a higher degree of sensitivity than prior art ELISA and immunogold assays, with an absorbence improvement of 100 times. (59pp Dwg.No 1/21)@

ABEQ EP 481020 A UPAB: 19930928
Immunogold assays are visually enhanced by exposing the completed immunogold assay tests to a soln. of **silver ions**, whereby silver is nucleated onto at least a portion of the gold, and then relating the presence and/or amt. of nucleated silver to the presence and/or amt. of the target analyte (I).

Also claimed is a method for determining the presence or quantity of (I) in a fluid by: (a) immobilising a specific binding agent (II), with which (I) will combine specifically, on a solid substrate; (c) exposing to a sec. binding agent capable of binding to the specifically combined (I), and to which colloidal gold particles have been bound; (d) exposing to a soln. contg. **silver ions** so that nucleation occurs; and (e) relating the presence and/or amt. of nucleated silver to (I). The gold particles may also be bound to (II), omitting the sec. binding agent. Assay kits are also provided.

USE/ADVANTAGE - The assay is esp. useful for determn. of HIV and Rubella **antibodies**. The silver enhanced gold-labelled immunogold assay (SEGLISA) has several advantages, providing a higher degree of sensitivity that prior art ELISA and immunogold assay, with an absorbence improvement of 100 times.

ABEQ EP 481020 B UPAB: 19960417
A method for visually, and/or photometrically and/or colorimetrically enhancing immunogold assays which employ specific binding agents immobilised onto solid substrates and which are carried out upon whole blood comprising exposing completed immunogold assay tests to a solution comprising **silver ions**, whereby silver is nucleated onto at least a portion of the gold, and then relating the presence and/or amount of nucleated silver to the presence and/or amount of the target analyte.
Dwg.1/21

L5 ANSWER 12 OF 17 JICST-EPlus COPYRIGHT 2002 JST
ACCESSION NUMBER: 910295735 JICST-EPlus
TITLE: Inhibitory effect of human sailva and silver nitrate on the in vitro infectivity of human immunodeficiency virus.
AUTHOR: SHIMIZU FUMIO
CORPORATE SOURCE: Tohoku Univ., Faculty of Dentistry
SOURCE: Nippon Shika Igakkaishi (Journal of the Japanese Association for Dental Science), (1991) vol. 10, pp. 108-112. Journal Code: Y0002A (Fig. 4, Tbl. 3, Ref. 9)
ISSN: 0286-164X
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: Japanese
STATUS: New
AB Human immunodeficiency virus(HIV) is the etiologic agent of the human acquired immunodeficiency syndrome(AIDS). The presence of HIV in human saliva of people with AIDS-related complex and of healthy homosextual male has been reported from several laboratories. In addition, HIV was recently detected in dental pulp of a patient with AIDS. Several epidemiologic researches, however, indicated that very few HIV-transmission via dental treatment was reported. It was then hypothesized that inhibitory agent(s) may exist in saliva. In this experiment, the in vitro effect of human saliva on the infectivity of HIV was examined. In addition, the effect of silver nitrate on the infectivity of HIV was determined. It was found that whole saliva had an antiviral activity against HIV. The activity was seen at 37.DEG.C. of the incubation temperature, but was not seen at 4.DEG.C.. This activity was stable by preheating of saliva at 56.DEG.C. for 30min, but was destroyed by dialyzing of saliva, indicating that the inhibitory agent(s) in saliva apparently did not involve complement-like factor(s) nor interferon. It was also shown that the antiviral activity was not due to **antibody** against HIV, since the subjects had not **antibody** against HIV. These data suggest that saliva may have an important role in the defense mechanisms against HIV infection via oral cavity. HIV was inactivated by silver nitrate in the concentration-, time-, and temperature-dependent fashion. Fifty percent reduction of the infectivity of HIV was seen at concentration of 0.072mM (0.0012%). Infectivity of HIV was inactivated by 60% in 1min, and 99.9 percent which was maximal, in 15min. Several data indicated that **Ag -ion** contributed to the inactivation of HIV. These data suggest that siler nitrate can be used to inactivate HIV when soft tissues are contaminated by HIV. (author abst.)

L5 ANSWER 13 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 5
ACCESSION NUMBER: 1992:503490 BIOSIS
DOCUMENT NUMBER: BA94:122015
TITLE: DOUBLE LECTIN AND IMMUNOLABELLING FOR TRANSMISSION ELECTRON MICROSCOPY PRE AND POST-EMBEDDING APPLICATION USING THE BIOTIN-STREPTAVIDIN SYSTEM AND COLLOIDAL GOLD-SILVER STAINING.
AUTHOR(S): PETTITT J M; HUMPHRIS D C
CORPORATE SOURCE: DEP. PATHOL. AND IMMUNOL., MONASH UNIVERSITY MED. SCH., COMMERCIAL RD., PRAHRAN, VICTORIA 3181,

AUSTRALIA.
SOURCE: HISTOCHEM J, (1991) 23 (1), 29-37.
CODEN: HISJAE. ISSN: 0018-2214.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB Pre- and post-embedding methods are described that can be used for consecutive localization of two intracellular cytoplasmic binding sites in cells and tissues embedded in acrylic plastic for transmission electron microscopy. Both applications make use of the biotin-streptavidin system with colloidal gold detector particles and involve silver staining of the first gold signal to a predetermined size. Silver augmentation effectively masked any free binding sites on the biotinylated molecule and on the streptavidin complex of the first labelling reaction, thereby allowing a second cycle with the same detection system. Execellent ultrastructural localization was obtained with silver lactate as the **silver ion** donor in the developing solution, and the enhancement treatment did not destroy or even visibly reduce target site reactivity for the subsequently applied probe. Using these methods it was possible to achieve specific double lectin and immunological labelling; they could, however, be adapted to dual or multiple-labelling procedures with any biotinylated molecules.

L5 ANSWER 14 OF 17 MEDLINE
ACCESSION NUMBER: 89054113 MEDLINE
DOCUMENT NUMBER: 89054113 PubMed ID: 3192604
TITLE: Cross-linked silver-impregnated skin for burn wound management.
AUTHOR: Ersek R A; Denton D R
CORPORATE SOURCE: University of Texas Health Science Center, San Antonio.
SOURCE: JOURNAL OF BURN CARE AND REHABILITATION, (1988 Sep-Oct) 9 (5) 476-81.
Journal code: HLK; 8110188. ISSN: 0273-8481.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Nursing Journals
ENTRY MONTH: 198901
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19970203
Entered Medline: 19890106

AB Biological skin is effective in restoring the missing water vapor barrier and promoting healing in burn wounds. Its effectiveness in wound management has been limited, however, by its inherently limited antibacterial properties and the fact that it is sometimes rejected before healing is complete, even reversing previous beneficial effects. Limited availability and storage difficulties have posed further problems. Impregnation of biological skin with **silver ions** has been proven to provide a potent bactericidal effect directly at the wound surface. We hypothesized that aldehyde cross-linking of silver-impregnated skin would mask the histocompatibility sites from the recipient's immune system. This has been demonstrated previously with aldehyde cross-linking of allografts and xenografts, prolonging retention sufficiently to permit complete wound healing. Commercially available skin was treated with an aldehyde compound and impregnated with silver. Initial studies of this cross-linked skin for treatment of burn

wounds showed average retention to be between 117 and 161 days, far exceeding that of any untreated skin. It was subsequently found that the aldehyde cross-linking permitted impregnation with higher concentrations of silver than had previously been possible--2,600 to 2,830 ppm as compared to an average of 1,020 to 1,350 ppm in previously available silver-impregnated skin. This results in a more potent, immediate antibacterial effect at the wound surface and an extended period of time-release antibacterial action before the silver is exhausted. The antibacterial properties of this aldehyde cross-linked silver-impregnated skin are effective in decontaminating even grossly infected wounds and in protecting against contamination of clean wounds from adjacent infected areas or external sources.(ABSTRACT TRUNCATED AT 250 WORDS)

L5 ANSWER 15 OF 17 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 90211865 MEDLINE
DOCUMENT NUMBER: 90211865 PubMed ID: 3273406
TITLE: Colored silver-intensified gold technique for light microscopy.
AUTHOR: Bertsch J A; Bialecki V; Emmons R; Korytko L
CORPORATE SOURCE: Laboratory and Research Products Division, Eastman Kodak Company, Rochester, NY 14650.
SOURCE: BIOTECHNIQUES, (1988 May) 6 (5) 448-50, 453.
Journal code: AN3; 8306785. ISSN: 0736-6205.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199005
ENTRY DATE: Entered STN: 19900622
Last Updated on STN: 19970203
Entered Medline: 19900514

AB The development of silver-intensified immunogold-labeled **antibodies** for light microscopy described by Fritz et al. (4) has been investigated. Principles and chemistries used in color photographic science have been applied to immunogold enhancement. In this technique, colloidal gold acts as the catalytic center for the reduction of **silver ions** to metallic silver with subsequent color development in the presence of hydroquinone. **Silver ions** and hydroquinone are adsorbed onto the surface of colloidal gold. The reduction of **silver ions** to metallic silver is further catalyzed by autometallography. The colored-SIG technique offers several advantages. It has sensitivity comparable to the silver-intensified gold (SIG) method and greater sensitivity than immunoenzymatic procedures, takes approximately one hour, results in one of three color reaction products (magenta, cyan, or yellow), and produces better contrast between the reaction products and the background (Figure 1). Thus, this method should prove useful in double- and even triple-staining procedures.

L5 ANSWER 16 OF 17 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 82024023 MEDLINE
DOCUMENT NUMBER: 82024023 PubMed ID: 6269593
TITLE: Formation of silver plastocyanin in Scenedesmus.
AUTHOR: Bohner H; Sandmann G; Boger P
SOURCE: BIOCHIMICA ET BIOPHYSICA ACTA, (1981 Jun 12) 636 (1) 65-9.

Journal code: A0W; 0217513. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198112
ENTRY DATE: Entered STN: 19900316
Last Updated on STN: 19970203
Entered Medline: 19811215

AB **Silver ions** up to 5 microM do not affect growth of the green microalga Scenedesmus acutus. They induce formation of protein species precipitable by an **antibody** specific against plastocyanin. The metal is incorporated into a part of the induced protein in competition with copper. Bismuth, lead and molybdenum had no effect. The amount of both silver- and copper-containing plastocyanins so formed apparently regulates concurrently inhibition of soluble plastidic cytochrome c-553. The silver-copper competition for the build-up of blue plastocyanin can be shown with intact cells, not with isolated algal plastocyanin.

L5 ANSWER 17 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1977:169414 BIOSIS
DOCUMENT NUMBER: BA63:64278
TITLE: PURIFICATION AND PROPERTIES OF HUMAN BRAIN ALPHA-L FUCOSIDASE.
AUTHOR(S): ALHADEFF J A; JANOWSKY A J
SOURCE: J NEUROCHEM, (1977) 28 (2), 423-428.
CODEN: JONRA9. ISSN: 0022-3042.
FILE SEGMENT: BA; OLD
LANGUAGE: Unavailable

AB Human brain .alpha.-L-fucosidase was extracted and the soluble portion was purified 9388-fold with 25% yield by a 2-step affinity chromatographic procedure utilizing agarose-.epsilon.-aminocaproyl-fucosamine. Isoelectric focusing revealed that all 7 isoelectric forms of the enzyme were purified. Trace amounts of 8 glycosidases, with hexosaminidase being the largest contaminant (1% by activity) were found in the purified .alpha.-L-fucosidase preparation. Sodium dodecyl sulfate-polyacrylamide gel electrophoresis indicated the presence of a single subunit of MW 51,000 .+-. 2500. The purified enzyme has a pH optimum of 4.7 with a suggested 2nd optimum of 6.6. The apparent Michaelis constant and maximal velocity of the purified enzyme with respect to the p-nitrophenyl substrate were 0.44 mM and 10.7 .mu.mol/min per mg protein, respectively. Ag2+ and Hg2+ completely inactivated the enzyme at concentrations of 0.1-0.3 mM. **Antibodies** made previously against purified human liver .alpha.-L-fucosidase cross-reacted with the purified brain .alpha.-L-fucosidase and gave a single precipitin line coincident with that from purified liver .alpha.-L-fucosidase. At least the soluble portion of brain .alpha.-L-fucosidase is apparently identical to human liver .alpha.-L-fucosidase.

[redacted]CAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 12:02:34 ON 07 FEB 2002)
L6 16412 S GARCIA A?/AU
L7 13 S (BOMEN M? OR BONEN M?)/AU
L8 12 S L6 AND L7
L9 32 S (L6 OR L7) AND L2
[redacted] 32 S L8 OR L9

- Author(s)

Searcher : Shears 308-4994

[redacted] 16 DUPLICATES REMOVED)

L11 ANSWER 1 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 2001:457222 CAPLUS
DOCUMENT NUMBER: 135:73538
TITLE: **Silver ion** microplates for immunoassays
AUTHOR(S): **Bonen, Matthew R.**; Hoffman, Steven A.; **Garcia, Antonio A.**
CORPORATE SOURCE: Arizona State Univ., Tempe, AZ, USA
SOURCE: BioTechniques (2001), 30(6), 1340-1351
CODEN: BTNQDO; ISSN: 0736-6205
PUBLISHER: Eaton Publishing Co.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Microplate wells can be coated with **silver ions** using glutaraldehyde as a spacer mol. and thiourea as a complexing ligand. Microwells contg. surface **silver ions** are shown to immobilize biotin-labeled horseradish peroxidase (HRP) in active form, while showing very little affinity for the unlabeled enzyme. These plates can also immobilize biotin-labeled antibodies that exhibit bioactivity after immobilization. **Silver ions** are needed for the complexation of the biotinylated enzyme or antibody because microwells modified to contain surface amine or thiourea mols. do not immobilize appreciable amts. of the labeled proteins. A max. surface coverage for biotin-labeled HRP of 40 ng/cm2 and an immobilization binding const. of Km = 8.times.109/M are detd. from serial dilns. in a microplate. Detection of as little as 6.7 fmol HRP is achieved using anti-bodies immobilized on the **silver ion**-modified microplates. Active antibody surface densities were estd. to be between 130 and 260 nm2/antibody mol. Background binding of HRP to the modified **silver ion** microplates was very low, allowing for reasonably accurate detection between 10-14 and 10-11 mol HRP.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 2
ACCESSION NUMBER: 2001:95269 CAPLUS
DOCUMENT NUMBER: 135:149468
TITLE: A comparison of **silver ion** to streptavidin coated microplates
AUTHOR(S): **Bonen, M. R.**; **Garcia, A. A.**; Hoffman, S. A.
CORPORATE SOURCE: Department of Chemical and Materials Engineering, Arizona State University, Tempe, AZ, 85287-6006, USA
SOURCE: J. Microbiol. Methods (2001), 44(2), 113-120
CODEN: JMIMDQ; ISSN: 0167-7012
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Direct comparisons are made between covalently linked streptavidin and **silver ion** coated microplates. Both coatings can immobilize biotinylated mols. **Silver ion** coated microplate wells can immobilize 1.8 times higher amts. of biotin labeled horseradish peroxidase. The quantitation

range and capacity for the capture of horseradish peroxidase using biotin labeled horseradish peroxidase are also greater for **silver ion** coated microplates. Approx. twice as many anti-horseradish peroxidase antibodies can be immobilized per well using **silver ion** coated microplates. Higher capacities are presumed to be due to the smaller footprint of **silver ions** as compared to streptavidin. A direct comparison between the two coatings for a .beta.-galactosidase ELISA showed that while the **silver ion** coated microplates gave higher readings, the streptavidin coated microplates exhibited smaller well-to-well variation. However, higher well to well variation for the silver microplates is attributed to the high d. of anti-.beta.-galactosidase antibodies on the microplates and the weak binding of clone GAL-13 to .beta.-galactosidase, rather than the silver coating. These studies suggest **silver ion** coated microplates are a desirable alternative to streptavidin plates for quant. immunoassays.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
ACCESSION NUMBER: 2000:260137 CAPLUS
DOCUMENT NUMBER: 132:276300
TITLE: Immobilized silver immunoassay system
INVENTOR(S): **Garcia, Antonio A.; Bonen, Matthew R.**
PATENT ASSIGNEE(S): Arizona Board of Regents, USA
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000021665	A1	20000420	WO 1999-US23902	19991014
W: CA, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1121198	A1	20010808	EP 1999-956547	19991014
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1998-104263 P 19981014
US 1999-145786 P 19990727
WO 1999-US23902 W 19991014

AB Bioassay plates having **silver ions** immobilized on them are useful in immunoassays for detection of antibodies or antigens. The bioassay plates are prepd. by amine derivatization of (e.g., polystyrene) microtiter plates, followed by reaction with polymd. glutaraldehyde, reaction with thiourea and complexation with **Ag+ ions**. The plates can bind biotinylated capture antibodies or antigens for use in immunoassay systems, esp. std. ELISAs (enzyme-linked immunosorbent assays).

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN

THE RE FORMAT

L11 ANSWER 4 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 4
ACCESSION NUMBER: 2000:207661 CAPLUS
DOCUMENT NUMBER: 132:345112
TITLE: Immobilization of **silver ions** onto paramagnetic particles for binding and release of a biotin-labeled oligonucleotide
AUTHOR(S): Ramirez-Vick, Jaime E.; **Garcia, Antonio A.**; Lee, James
CORPORATE SOURCE: Lawrence Berkeley Laboratory, Berkeley, CA, USA
SOURCE: React. Funct. Polym. (2000), 43(1,2), 53-62
CODEN: RFPOF6; ISSN: 1381-5148
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Paramagnetic particles with amino functional groups can be derivatized using glutaraldehyde and thiourea in order to immobilize **silver ions**. The silver immobilization procedure did not alter the surface morphol. of the particles according to Tapping mode AFM imaging. Rutherford backscattering showed that silver resides on the particle surface while iron is present throughout the particle. Particle-Induced X-Ray Emission spectroscopy detd. that the derivatized particles have a silver capacity of 7%. Paramagnetic particles contg. immobilized **silver ions** have an affinity binding const. of the order 108 for mono- and tri-biotin-labeled oligonucleotide with primary sequence 3'-GCCCCTTTTTAAAAACCCCG-5' while the original amino particles have little affinity for the oligonucleotide. Measurement of binding and release was enabled by attaching either fluorescein isothioocyanate (FITC) to the 3'-end or Texas Red or fluorescein phosphoramidite (FAM) to the 5'-end of the oligonucleotide. Up to a 97% release of the FAM labeled biotinylated oligonucleotide from the particle surface can be achieved using an aq. soln. of thiodiglycol.
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 5 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:560451 CAPLUS
DOCUMENT NUMBER: 133:132023
TITLE: Immobilized **silver ions** as the basis of a highly sensitive microplate immunoassay system
AUTHOR(S): **Bonen, Matthew Richard**
CORPORATE SOURCE: Arizona State University, USA
SOURCE: (1999) 174 pp. Avail.: UMI, Order No. DA9950229 From: Diss. Abstr. Int., B 2000, 60(11), 5639-5640
DOCUMENT TYPE: Dissertation
LANGUAGE: English
AB Unavailable

L11 ANSWER 6 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:144030 CAPLUS
TITLE: Affinity recovery of DNA using **silver ions**
AUTHOR(S): **Garcia, A. A.**; Ramirez-Vick, J.;

Perusich, S.; Lopez, G.
CORPORATE SOURCE: Department of Chemical, Bio & Materials Enigneering, Arizona State Universiity, Tempe, AZ, 85287-6006, USA
SOURCE: Book of Abstracts, 217th ACS National Meeting, Anaheim, Calif., March 21-25 (1999), BIOT-016. American Chemical Society: Washington, D. C.
CODEN: 67GHA6
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Free **silver ions** have been known to bind strongly and specifically to purine bases on nucleotides, esp. guanine (log K = 6), while not interacting with phosphate or sugar groups. Until recently this interaction has not been exploited for oligonucleotide and DNA sepn. because free **silver ions** ppt. form soln. in the presence of phosphate and chloride ions. By immobilizing **silver ions** through complexation with a soft ligand such as thiourea, paramagnetic particles can be used to recover oligonucleotides by first binding them from phosphate buffered saline (log K = 7.6) followed by unbinding using thiodiglycol for a max. recovery of 97%. Results with lambda phage DNA are compared to the results for a 20mer oligonucleotide.

L11 ANSWER 7 OF 16 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 1999:300836 SCISEARCH
THE GENUINE ARTICLE: 176JN
TITLE: Affinity recovery of DNA using **silver ions.**
AUTHOR: **Garcia A A (Reprint)**; RamirezVick J; Perusich S; Lopez G
CORPORATE SOURCE: ARIZONA STATE UNIV, DEPT CHEM BIO & MAT ENGN, TEMPE, AZ 85287
COUNTRY OF AUTHOR: USA
SOURCE: ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY (21 MAR 1999) Vol. 217, Part 1, pp. 16-BIOT.
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036.
ISSN: 0065-7727.
DOCUMENT TYPE: Conference; Journal
LANGUAGE: English
REFERENCE COUNT: 0

L11 ANSWER 8 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:169418 BIOSIS
DOCUMENT NUMBER: PREV199900169418
TITLE: Affinity recovery of DNA using **silver ions.**
AUTHOR(S): **Garcia, A. A.**; Ramirez-Vick, J.; Perusich, S.; Lopez, G.
CORPORATE SOURCE: Dep. Chem., Bio Materials Eng., Arizona State Univ., Tempe, AZ 85287-6006 USA
SOURCE: Abstracts of Papers American Chemical Society, (1999) Vol. 217, No. 1-2, pp. BIOT 016.
Meeting Info.: 217th National Meeting of the American Chemical Society Anaheim, California, USA March 21-25, 1999 American Chemical Society
. ISSN: 0065-7727.

DOCUMENT TYPE: Conference
LANGUAGE: English

L11 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 5
ACCESSION NUMBER: 1998:554972 CAPLUS
DOCUMENT NUMBER: 129:272606
TITLE: Recovery of an oligonucleotide using **silver ions** immobilized onto paramagnetic particles
AUTHOR(S): Ramirez-Vick, Jaime E.; **Garcia, Antonio A.**; Lee, James
CORPORATE SOURCE: Lawrence Berkeley Laboratory, Berkeley, CA, USA
SOURCE: Prep. Biochem. Biotechnol. (1998), 28(3), 243-260
CODEN: PBBIF4; ISSN: 1082-6068
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A 3'-GCCCCTTTTTAAAAACCCCG-5' oligonucleotide can be recovered from aq. soln. using paramagnetic particles contg. immobilized **silver ions**. Binding and elution expts. were conducted by attaching either fluorescein isothiocyanate (FITC) to the 3'-end or Texas Red or fluorescein phosphoramidite (FAM) to the 5'-end of the oligonucleotide. For the 5'-end FAM labeled oligonucleotide, a binding const. of 4.2.times.107 was measured at pH 7 using phosphate buffer. The percent of bound FAM labeled oligonucleotide eluted from the paramagnetic particles was found to be 97% using an aq. soln. of thiodiglycol. While the FAM mol. by itself does not bind to the silver activated paramagnetic particles, the choice of fluorescent label affects binding affinities and elution recoveries.

L11 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 6
ACCESSION NUMBER: 1998:133155 CAPLUS
DOCUMENT NUMBER: 128:279836
TITLE: Comparison of retention and binding behavior of dUTP and biotin-conjugated dUTP using an immobilized **silver ion** chromatography support
AUTHOR(S): Agarwal, Sanjay; **Garcia, Antonio A.**; Miles, Dale
CORPORATE SOURCE: DEPARTMENT OF CHEMICAL, BIO AND MATERIALS ENGINEERING, ARIZONA STATE UNIVERSITY, TEMPE, AZ, 85287-6006, USA
SOURCE: Sep. Sci. Technol. (1998), 33(1), 1-18
CODEN: SSTEDS; ISSN: 0149-6395
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A gel filtration chromatog. packing was modified to contain immobilized **silver ions** in order to study the retention and binding behavior of biotin-labeled b-dUTP vs. dUTP. The immobilized silver column retains unlabeled dUTP (with the retention time depending on sodium chloride concn. in the mobile phase), but no affinity binding is evident with dUTP. In the absence of sodium chloride, dUTP was seen to have a retention time of 66 min using a 10.3-mL immobilized silver column, while b-dUTP is fully bound to the immobilized silver column. Approx. 90% of b-dUTP

is recovered when b-dUTP is applied to the immobilized silver column using 10-3 M PBS and eluted using 0.2 M NaCl in the mobile phase. These results demonstrate the potential for using **silver ions** in immobilized soft metal affinity chromatog. (ISMAC) in order to selectively target biotin labeled mols. An anal. of the data yielding math. models with specific focus on the interaction between chloride and **silver ions** is provided in order to guide method development for other biotin-labeled oligonucleotides.

L11 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:161819 CAPLUS
TITLE: Reversible complexation of biotin labeled cells and oligonucleotides using immobilized **silver ions**.
AUTHOR(S): **Garcia, Antonio A.**; Ramirez-Vick, Jaime; Johnson, Sarah; Agarwal, Sanjay
CORPORATE SOURCE: College Engneering, Arizona State University, Tempe, AZ, 85287-6006, USA
SOURCE: Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17 (1997), I&EC-151. American Chemical Society: Washington, D. C. CODEN: 64AOAA
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Non-radioactive labeling of biol. mols. has become quite popular during the past 16 yr mostly due to advances in mol. biol. and more specifically due to the development of biotin-streptavidin methods and the increasing sophistication of immunol. methods. These non-radioactive labeling techniques also provided opportunities for purifying complex, protein or biol. fluids for clin. diagnostics and com. prodn. We have developed a substitute for streptavidin using a simple metallo-org. mol. which: (1) is less expensive; (2) is stable at room temp.; (3) is inherently free from bacterial contamination due to the use of **silver ions**; and (4) can be used to reversibly bind biotin conjugates using very mild, biocompatible conditions. Our latest results for selective binding of biotin labeled oligonucleotides and T cells as well as elution using NaCl will be discussed.

L11 ANSWER 12 OF 16 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 97:271897 SCISEARCH
THE GENUINE ARTICLE: WP187
TITLE: Reversible complexation of biotin labeled cells and oligonucleotides using immobilized **silver ions**.
AUTHOR: **Garcia A A (Reprint)**; RamirezVick J; Johnson S; Agarwal S
CORPORATE SOURCE: ARIZONA STATE UNIV, TEMPE, AZ 85287
COUNTRY OF AUTHOR: USA
SOURCE: ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY , (13 APR 1997) Vol. 213, Part 2, pp. 151-IEC. Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036. ISSN: 0065-7727.
DOCUMENT TYPE: Conference; Journal
LANGUAGE: English
REFERENCE COUNT: 0

L11 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:169525 CAPLUS
DOCUMENT NUMBER: 124:317806
TITLE: Utilization of Soft Acid/Base Interactions in Low Molecular Weight Biochemical Separations
AUTHOR(S): **Garcia, Antonio A.**; Kim, Dong-Hoon; Miles, Dale R.
CORPORATE SOURCE: Department of Chemical Bio Materials Engineering, Arizona State University, Tempe, AZ, 85287-6006, USA
SOURCE: Ind. Eng. Chem. Res. (1996), 35(4), 1097-106
CODEN: IECRED; ISSN: 0888-5885
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Categorization of acid/base interactions using hard soft acid base (HSAB) theory suggested that sulfur-contg. low mol. wt. biol. mols. could be specifically targeted for reversible complexation using soft metal ions. A viable method of employing soft metal ions for biosepns. is to immobilize Ag(I) and Pt(II) ions using a soft ligand such as thiourea. This immobilization chem. allows for the use of Ag(I) columns that are stable in the presence of chloride and phosphate ions in the mobile phase, and it enhances the complexation chem. of Ag(I) and Pt(II) ions toward solutes which are soft bases. Because chloride ions are soft bases, NaCl can be used for competitive elution. However, in amino acid sepns., electrostatic and hydrophobic interactions influence the selectivity and capacity of Ag(I) and Pt(II) columns. A detailed study of the effects of Ag(I) ion loading and pH on the retention time of methionine, histidine, and tryptophan illustrates the need for accounting for Lewis acid/base, electrostatic, and hydrophobic interactions in biol. mol. sepns.

L11 ANSWER 14 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:217428 CAPLUS
TITLE: Recovery of biotin-labeled oligonucleotides using soft metal affinity interactions.
AUTHOR(S): Ramirez-Vick, Jaime E.; **Garcia, Antonio A.**
CORPORATE SOURCE: Department Chemical, Bio & Materials Engineering, Arizona State University, USA
SOURCE: Book of Abstracts, 211th ACS National Meeting, New Orleans, LA, March 24-28 (1996), BTEC-033. American Chemical Society: Washington, D. C.
CODEN: 62PIAJ
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Recent expts. have shown the feasibility of using immobilized Ag(I) ions for the reversible binding of biotin-labeled oligonucleotide dUTP (i.e., biotin-16-2'-Deoxy-uridine-5'-triphosphate) from phosphate buffer. A novel media using paramagnetic particles was developed for immobilizing the Ag(I) so that the **silver ions** are stable in the presence of NaCl. A comparison of batch affinity binding of biotin labeled dUTP with a com. available media contg. immobilized streptavidin (Dynabeads M-280 Streptavidin, Dynal Inc., Lake Success, NY) showed that the paramagnetic media contg. Ag(I) had equiv. specificity for binding the biotin labeled oligonucleotide (b-dUTP) over its unlabeled counterpart. However,

in the presence of 0.01 M NaCl the paramagnetic media contg. Ag(I) did not bind b-dUTP suggesting that elution of b-UTP can be performed using relatively mild conditions. The possibility of regenerating these soft metal ion particles will result in substantial cost savings to large labs. since stereptavidin paramagnetic beads have become essential in biomedical research and their cost can be as much as $2.50 per template in DNA sequencing (Dynal Inc., 1994). This paper will discuss the use of this novel media for reversible binding of biotin labeled oligonucleotides.

L11 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 7
ACCESSION NUMBER: 1995:686646 CAPLUS
DOCUMENT NUMBER: 123:51400
TITLE: Retention Behavior of Amino Acids Using Immobilized Ag(I) Chromatography
AUTHOR(S): Kim, Dong-Hoon; **Garcia, Antonio A.**
CORPORATE SOURCE: Department of Chemical Bio and Materials Engineering, Arizona State University, Tempe, AZ, 85287-6006, USA
SOURCE: Biotechnol. Prog. (1995), 11(4), 465-7
CODEN: BIPRET; ISSN: 8756-7938
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A math. description of retention times for several amino acids on a polyacrylamide resin contg. immobilized Ag(I) is presented in this paper. Immobilization of Ag(I) ions onto a chromatog. support allows for the expansion of immobilized metal affinity chromatog. (IMAC) to include soft acid/soft base interactions. For the retention of methionine, histidine, and tryptophan, a math. model is presented that rationalizes the retention behavior of these amino acids on a Ag(I) column as a function of **silver ion** loading and pH. The pH effect is important in that methionine is retained longer than histidine at pH values below 5, while at pH 7 histidine is retained longer than methionine. The effects of nonspecific interactions with the modified polymer, electrostatic interactions, and soft acid/soft base interactions are also taken into account by the model. This approach may also be useful for modeling the retention times of amino acids on other types of IMAC columns.

L11 ANSWER 16 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:142805 CAPLUS
DOCUMENT NUMBER: 122:22838
TITLE: Immobilization of silver and platinum ions for metal affinity chromatography
AUTHOR(S): **Garcia, A. A.**; Kim, D. H.; Miles, D. R.
CORPORATE SOURCE: Department of Chemical, Bio and Materials Engineering, Arizona State University, Tempe, AZ, 85287-6006, USA
SOURCE: React. Polym. (1994), 23(2/3), 249-59
CODEN: REPLEN; ISSN: 0923-1137
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ag(I) or Pt(II) are immobilized onto a polyacrylamide resin using a glutaraldehyde/thiourea activation procedure. Wet chem. expts. and XPS indicate that metal ion immobilization is due to chem. complexation with thiourea. Immobilization using thiourea results

in significantly lower metal loss from the solid phase as compared to ion exchange immobilization and allows for the use of chloride and phosphate salts in the mobile phase. The immobilized Ag(I) resin retains amino acids in the order: histidine > methionine tryptophan tyrosine > phenylalanine > asparagine > proline; using a phosphate buffer mobile phase at pH 7. At pH 4.7, methionine is retained longer on the Ag(I) resin than histidine. The affinity of methionine for the immobilized Pt(II) resin is greater giving the order: methionine (not eluted) tryptophan > tyrosine > histidine = phenylalanine; using a phosphate mobile phase at pH 7.

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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: MY-CHAU TRAN Examiner #: 78933 Date: 2/6/02
Art Unit: 1641 Phone Number 30 5-6999 Serial Number: 09/807,663
Mail Box and Bldg/Room Location: CM1, 7E12 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need. MEJ

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Immobilized Silver Immunoassay System

Inventors (please provide full names): Antonio A. Garcia; Matthew R. Bomen

Earliest Priority Filing Date: 10/14/1998

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Please perform: ① Inventor search
② Attached claims.

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